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Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Forty seventh session
Geneva, 22 – 26 June 2015
Item 5 (b) of the provisional agenda
Transport of gases: miscellaneous

Insertion of new ISO standards in 6.2.2

Transmitted by the International Organisation for Standardisation (ISO)[1]

Introduction

1. This proposal concerns the introduction of two ISO standards and one ISO technical report into section 6.2.2. They all concern valves and the reference and titles are:

ISO 14246:2014	Gas cylinders – Cylinder valves – Manufacturing tests and examinations
ISO 22434:2006	Transportable gas cylinders – Inspection and maintenance of cylinder valves
ISO/TR 11364:2012	Gas cylinders – Compilation of national and international valve stem/gas cylinder neck threads and their identification and marking system

The usual arrangements have been made with the Secretariat to circulate PDF copies of these documents to the experts.

[1] In accordance with the programme of work of the Sub-Committee for 2015–2016 approved by the Committee at its seventh session (see ST/SG/AC.10/C.3/92, paragraph 95 and ST/SG/AC.10/42, para. 15).

Proposal 1

2. Insert the following row at the end of the table in 6.2.2.3 *Service equipment*

ISO 14246:2014	Gas cylinders – Cylinder valves – Manufacturing tests and examination	Until further notice

Justification for Proposal 1

3. Valves are crucial to safety in transport and use. The effectiveness and durability of a design type of valve in UN pressure receptacles is established by the standard ISO 10297 which covers the specification and type testing. Until now however, there are no requirements in the Regulations for the initial inspection and tests for valves. This standard fills that gap and ensures that the properties specified in the type approval are present in every valve.

Proposal 2

4. Insert the following row at the end of the table in 6.2.2.4 *Periodic inspection and test*

ISO 22434:2006	Transportable gas cylinders – Inspection and maintenance of cylinder valves	Until further notice

Justification for Proposal 2

5. In the Model Regulations the requirements for periodic inspection and test of valves are given in 6.2.1.6 (e) as:

> Check of service equipment, other accessories and pressure relief devices, if to be reintroduced into service.

This standard gives the details of the procedures necessary to inspect and test and if necessary, repair or refurbish valves, before retuning them into service. This standard is recommended as a significant step forward in ensuring that valves are fit for continued service in UN pressure receptacles.

Proposal 3

6. In 6.2.2.7.4 add the following new Note (shown underlined) after paragraph (m).

6.2.2.7.4 The following manufacturing marks shall be applied:

(m) Identification of the cylinder thread (e.g. 25E). This mark is not required for closed cryogenic receptacles;

NOTE: *Information on marks that may be used for identifying threads for cylinders is given in ISO/TR 11364, Gas cylinders – Compilation of national and international valve stem/gas cylinder neck threads and their identification and marking system.*

(n) The manufacturer's …

Justification for Proposal 3

7. Although ISO has published standards for two sizes of valve stem/cylinders neck threads – the 25E and 17E – many other threads are used and are published in national standards. ISO/TR 11364 gives 118 thread marks and the standards in which the threads are defined. It is expected that this technical report will be revised from time to time as more information is collected. Therefore, the reference is given without a date. Undated references are rarely used in the Model Regulations, but in this case the document is only a source of information and does not have requirements. The use of this document is voluntary and there is no intention to limit the choice of marks since the document does not contain all the threads in use.

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Sub-Committee of Experts on the Transport of Dangerous Goods

Forty-seventh session
Geneva, 22 June – 26 June 2015
Item 2 (i) of the provisional agenda
Explosives and related matters: miscellaneous

Ammonium nitrate emulsions (UN3375) – Special provision 309

Transmitted by the Australian Explosives Industry Safety Group (AEISG)[1]

Introduction

1. This proposal is to remove the requirement for Competent Authority approval to classify products as UN 3375 when the product meets the formulation outlined in SP309 and passes negative (-) results the relevant Series 8 tests.

2. The entry for UN 3375, AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, in the Dangerous Goods List in Chapter 3.2 of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations, eighteenth revised edition, includes in Column 6 a reference to special provision SP309.

3. SP309 states in paragraph 4 (refer to Chapter 3.3):

> "Substances shall satisfactorily pass Tests 8(a), (b) and (c) of Test Series 8 of the Manual of Tests and Criteria, Part I, Section 18 and be approved by the competent authority.".

[1] In accordance with the programme of work of the Sub-Committee for 2015–2016 approved by the Committee at its seventh session (see ST/SG/AC.10/C.3/92, paragraph 95 and ST/SG/AC.10/42, para. 15).

Discussion

4. At the forty-first session of the Sub-Committee, AEISG submitted a formal paper ST/SG/AC.10/C.3/2012/15 seeking to:

(a) Clarify the testing requirements as outlined in SP309 for classifying substances as UN 3375, AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives, and

(b) Remove the requirement for competent authority approval of such substances.

5. The Working Group on Explosives , and subsequently the Sub-Committee accepted the changes clarifying the test requirements in SP309, but did not support the removal of the requirement for competent authority approval of the substance following satisfactory testing as outlined. In its report to the Sub-Committee (Informal document INF.67, 41st session) the Working Group on Explosives noted:

"For various reasons, such as the desire to control tank transport through conditions in the approval certificate and the desire to continue to control assignment to UN3375, several experts supported the retention of the competent authority approval requirement."

6. Tank transport of substances in UN3375 is controlled by Tank Special Provision TP9, which requires Competent Authority approval and hence the desire expressed by the Explosives Working Group to continue control in this area is maintained by this provision.

7. When substances perform satisfactorily in tests properly documented in the Manual of Tests and Criteria, it is not usual that those substances then also need to be approved by the Competent Authority. Dangerous goods other than explosives are normally classified by the consignor, with Competent Authority involvement only when specifically prescribed in the Model Regulations. (see 2.0.0).

8. Substances are routinely excluded from Class 1 using the satisfactory performance in Test Series 2 without the additional approval of the substance by the Competent Authority. For example, ammonium nitrate, UN 1942 will be assigned to Hazard Division 5.1 and not 1.5 by the consignor using Special provision SP306 (passing Test Series 2). All organic peroxides and self-reactive substances are classified by the consignor.

9. Test Series 8 has been used for several years now, has recently been comprehensively reviewed to provide clarity on critical parameters and criteria and is now an established Test Series within the Manual of Tests and Criteria. Hence, for entries in UN 3375, satisfactory performance in the relevant tests (Test Series 8 (a), (b) and (c)) is now considered sufficient basis for proper classification without the additional and unnecessary approval of each substance by the Competent Authority.

10. The requirement to obtain an additional approval following satisfactory testing has become a purely administrative process placing additional burden on both industry and the regulatory authorities, some of which have no legislative capacity or desire to issue approvals. Subsequently, industry experiences significant delays in meeting this administrative process in each and every relevant jurisdiction.

Proposal

11. Given that transport of UN3375 substances in tanks remains under the control of Competent Authorities by Tank Special Provision TP9, it is proposed to amend SP309 (final sentence only) such that it maintains the relevant tests of Test Series 8, and removes

the additional requirement for each substance to be approved by the competent authority, as follows:

"Substances shall satisfactorily pass Tests 8(a), (b) and (c) of Test Series 8 of the *Manual of Tests and Criteria*, Part I, Section 18."